A METHOD OF STATELESS GROUP COMMUNICATION AND REPAIR OF DATA PACKETS TRANSMISSION TO NODES IN A DISTRIBUTION TREE

ABSTRACT

Disclosed is a method for stateless group communication based on constructing and encoding sender based trees. The headers obtained by encoding the distribution trees are inserted in each communication packet. The encoding allows partial or full decoding of the distribution trees. The encoding is performed to minimize the overhead of the header and the processing required for partial decoding of the distribution tree. The invention includes mechanisms for processing the encoded header at intermediate nodes in the distribution tree in order to determine the next communication nodes and mechanisms for modification and re-encoding of the trees in order to provide resilience to network failures or to react to application level specified conditions.